

## Disinfectant Identification

### 1) Virkon-S

oxidizing agent.

oxidize cell membrane of M.O.  
loss of structure & cell lysis  
↓  
Death.

Na<sup>+</sup>cent O<sub>2</sub> →  
Damage protein & DNA

\* identified by Color **pink**



\* Consist of K<sup>+</sup> peroxy monosulphate + NaCl.

\* organic acid, surfactant, combination with wide microbial spectrum of activity & some is efficient in presence of organic materials.

### 2) TH-4 → identified by Color → light green.

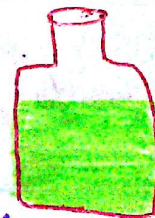
\* Di decyle di methyle ammonium chloride.

uses:

bactericide & fungicide.

side effects:

infertility and cause birth effects.





## 11) Iodine Compound / Povidone "Color, odour, stable" "Halogens"

Mode of action → oxidation of essential sulphydryl group.  
→ chlorine reacts with water →

uses : hypochlorous acid → Microbicidal.

\* 2% iodine + 70% alcohol → antiseptic.

\* 10% povidone iodine → pre & post operative skin disinfection

adv → sporicidal in ↑ concentration.

→ effective against bacteria, fungi, Mycobacteria, enveloped & non-enveloped viruses.

disadv



→ odour, not used in meat & dairy industry.

→ rapidly inactivated by organic matter.

→ Corrosive, staining.

→ ↑ GNC → irritating to eye & skin.

## 12) phenol → (color, stable) Halogens.

Mode of action → Disturbing of cell membrane, inactivation of enzymes, ppt. of protein

adv → Maintain active in hard water & in presence of organic matter.

Disadv → 1. GNC ↑ 2% → Highly toxic.

2. vapors are corrosive to eye & skin.

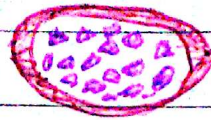
3. inhalation of vapors → lung edema.

4. long term exposure → harm to liver, kidney.





## potassium permanganate



\* inorganic chemical compound.

\* strong oxidizing agent.

\* antiseptic

- treatment of "Canker Sores" ulcers
- " Dermatitis, fungal infection of hands, feet.
- used industrial → to remove iron, hydrogen sulfide

\* Disadv.

- staining of skin purple color.
- react with conc.  $H_2SO_4$  → highly explosive.

Qd cresol → color "off white" cid. smell & odour.

Mechanism of action → Disruption of membranes, ppt. of protein, inactivation of enzymes.

active principles → chloroxylenol.

uses

- Diluted Dettol → clean cuts, wounds
- Disinfect surfaces as household floors, work surfaces, kitchens.

Disadv

- Lethal toxicity.
- Poisonous when ingested or inhaled.

adv → effective disinfectant & antiseptic.





### 3. Acetic acid $\Rightarrow$ organic acid ( جس ) ( Br odour )

Mode of action  $\rightarrow$  Destroy nucleic acid bone  $\rightarrow$  ppt. of protein  
 $\rightarrow$  change p.H of environment  $\rightarrow$  lethal effect

uses

- \* 45% most used
- \* 5% Typical working solution  $\rightarrow$  House hold vinegar.
- \* 2%  $\rightarrow$  Contaminated surface  $\rightarrow$   $\downarrow$  level of FMD

Disadv:

$\rightarrow$   $\downarrow$  activity in presence of organic materials

Adv:

less toxic, less corrosive, less irritant.

### 4. Ethyle alcohol ( odour + touch ) ( جس )

Mode of action

$\rightarrow$  Dehydration of cell.  
 $\rightarrow$  Coagulation of protein.

\* low concentration's more effective.

uses

- \* 70% ethyle  $\rightarrow$  antiseptic on skin.
- \* 80% ethanol + 5% isopropil  $\rightarrow$  lipid & enveloped virus as Hepatitis B.C.

Disadv:

1. Volatile.
2. Flammable
3. very irritating on injured skin
4.  $\downarrow$  activity in presence of organic materials

### 5. formaldehyde $\rightarrow$ 40% formaline "odour" ( جس )

mode of action

$\rightarrow$  Denaturation of protein.

uses

- $\rightarrow$  surface disinfection + fumigation of rooms.
- $\rightarrow$  2%  $\rightarrow$  at 40°C / 20 min  $\rightarrow$  weal disinfection  $\rightarrow$  Anthrax
- $\rightarrow$  0.25%  $\rightarrow$  60°C / 6 hrs  $\rightarrow$  animal hair or prists.
- $\rightarrow$  1:5%  $\rightarrow$  foot bath  $\rightarrow$  treatment of foot-Rot

adv.  $\rightarrow$  Broad spectrum.

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Disadv  $\rightarrow$  1- very irritating  $\rightarrow$  Neutralizing by ammonia -  
2- poor penetration. 3- Toxic to animal.



## QAC → Cationic detergent.

"by odour"

- \* removing of organic material
- \* Bio cidal & Disrupting of cell membrane.

uses → 200 ppm or 1 → + alcohol → effective against enveloped viruses hard to be killed. as Rota, Noro, Polio viruses

adv → good against fungi, enveloped viruses.  
→ lethal to wide variety of organism except endospores, Mycobacteria, non-enveloped viruses

Disadv → Deactivated by anionic detergents.  
→ work best in soft water.  
→ effective at 100°C

## ⑦ Sanitane

by shape, color

1000

بودر  
آفران

Sodium dichloro isocyanurates.

uses

- ① sanitation, disinfection of poultry farms, and slaughter house, Hatchery, & live stock farm.

Contra. indication

→ not used before or after, alive vaccination by 24hr

## ⑧ Copper sulphates

→ Heavy metals. "color"

آبی

Mode of action

- ppt. of protein & Bacteriostatic.
- oxidation of sulphhydryl group.

uses

→ fungicide & Herpicide.

Disadv

- irritating.
- affecting skin "itching", eye
- highly soluble in water

